



# Japan 2011 Earthquake: U.S. Department of Defense (DOD) Response

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## Overview

With almost 40,000 U.S. troops stationed in Japan, the March 11, 2011, earthquake and tsunami is unique in that U.S. forces and associated resources were located in close proximity to deal with the crisis. All Services—Army, Navy, Marine Corps, and Air Force—are present in Japan in various capacities. In addition, U.S. forces train regularly with their Japanese Self Defense Force (SDF) counterparts, including many humanitarian assistance and disaster relief exercises.

With over 100,000 SDF troops called up to respond to the disaster, U.S. forces were able to coordinate their efforts almost immediately to provide support for the Japanese responders. Within 8 days of the earthquake, the SDF had deployed 106,200 personnel, 200 rotary aircraft and 322 fixed-wings, and 60 ships. Nearly all of the Maritime SDF ships have been transferred to the affected area, and forces from the southernmost to the farthest north territories have been mobilized. As of March 19, the SDF had rescued 19,300 people and provided supplies on an ongoing basis to 300,00 displaced people, in addition to supporting activities at the troubled nuclear reactors.<sup>1</sup>

## Operational Update<sup>2</sup>

On March 18, one week after the quake struck, U.S. and Japanese forces began to transition from a search and rescue effort to a relief mission for the survivors. DOD officials report that as of the morning of March 22, 20 U.S. naval ships, 140 aircraft, and 19,703 sailors and marines are now involved in humanitarian assistance and disaster relief efforts in and around Japan, delivering 227 tons of relief supplies to date. U.S. Army and Air Force units are also delivering humanitarian supplies and providing other services as required. All search and rescue assets from Okinawa, the southernmost part of Japan, were first moved to Yokota Air base outside of Tokyo and then deployed to the north. Further details are in the sections on each branch's operations below.

On March 21, Admiral Robert Willard, commander of the U.S. Pacific Command, visited the Defense Ministry for consultations with SDF Chief of Staff Ryoichi Oriki and other officers, reinforcing the commitment to coordinate relief efforts.

## DOD Funding<sup>3</sup>

On March 12, Secretary of Defense Gates authorized U.S. Pacific Command (USPACOM) to continue disaster relief operations and approved \$35 million in Overseas Humanitarian, Disaster, and Civic Aid (OHDACA) funding for these purposes. As the scope and duration of DOD's support becomes better defined, it is possible that additional funding will be required.

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<sup>1</sup> Japanese Ministry of Defense, <http://www.mod.go.jp/j/press/news/2011/03/16d.html>

<sup>2</sup> United States Pacific Command Operations Update on the Relief Effort in Japan, updated as of 4:05 am HST March 21, 2011, [http://www.pacom.mil/web/Site\\_Pages/Home\\_Page/AssistedDeparture-2011/21-Relief-effort-update.shtml](http://www.pacom.mil/web/Site_Pages/Home_Page/AssistedDeparture-2011/21-Relief-effort-update.shtml) and official 7<sup>th</sup> Fleet Facebook page, accessed on 3/22/11.

<sup>3</sup> Operational Update provide to CRS by the Office of Secretary of Defense Office for Legislative Affairs, March 16, 2011.

## **Status of DOD Facilities and Personnel**

Initial DOD efforts after the earthquake were focused on what can be described as “force protection” such as relocating naval vessels and aircraft so that potential damage from the impending tsunami would be mitigated, as well as protecting and accounting for U.S. military personnel, 43,000 dependents, and 5,000 DOD civilian employees stationed in Japan. These force protection efforts appear to have been successful as there were no reported DOD-related fatalities and no reports of major damage to DOD facilities or equipment.<sup>4</sup>

## **Voluntary Departure of DOD Dependents<sup>5</sup>**

After the State Department authorized the voluntary departure for family members and dependents of U.S. government personnel who wish to leave Northeast Japan on March 17, DOD stated that it would implement the State Department’s plan for eligible DOD dependents. It was reported that Navy bases in the Tokyo area would begin voluntary evacuations for family members as early as the evening of March 17. The Navy reportedly has the capability to evacuate up to 10,000 people per day. On March 17, Admiral Robert Willard, Commander of the U.S. Pacific Command, stated that planning figures for an overall evacuation of U.S. citizens in the greater Tokyo area was about 87,300 personnel—a figure that includes eligible DOD dependents.<sup>6</sup> In the event of such a large-scale evacuation, DOD would likely play a prominent role in planning, coordination, and execution, including the use of U.S. military ground vehicles, aircraft, and ships.

According to reports, more than 8,000 family members have signed up for flights out of Japan. Flights have been departing from Naval Air Facility Atsugi, Yokosuka Naval Base, and Misawa Air Base. Up to date cumulative numbers of personnel who have departed as well as their destinations have not been made public.

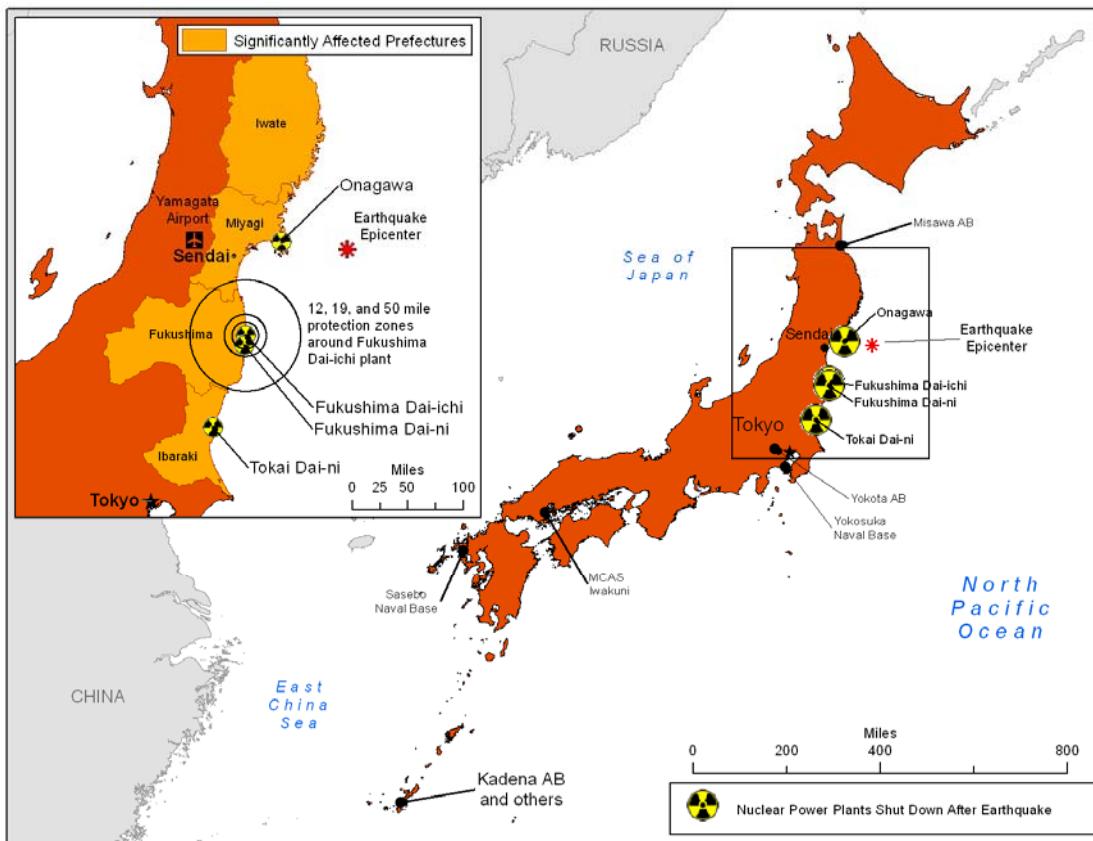
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<sup>4</sup> Cheryl Pellerin, “Military Gears Up to Help Japan,” *American Forces Press Service*, March 11, 2001.

<sup>5</sup> Operational Update provide to CRS by the Office of Secretary of Defense Office for Legislative Affairs, March 17, 2011 and Erik Slavin, “Navy to Begin Voluntary Evacuation of Families in Japan,” *Stripes.com*, March 17, 2011, and “Flight Carrying Military Families Departs Japan,” *Stars and Stripes*, March 22, 2011.

<sup>6</sup> Information in this section is taken from a DOD transcript of a briefing given by U.S. Pacific Command Commander, Admiral Robert Willard on March 17, 2011.

**Figure 1. Map of Japan, Selected U.S. Military Facilities, and Areas Affected by Earthquake**



**Source:** Prepared by CRS based on U.S. Department of State; National Geospatial Intelligence Agency; and GeoCommons data.

## Operation Tomodachi<sup>7</sup>

DOD's relief effort has been designated "Operation Tomodachi," Japanese for "friend." U.S. airlift capability is particularly valuable in reaching survivors in the devastated areas. U.S. efforts have focused most heavily on transport of relief supplies; SDF personnel and equipment; surveillance of the affected area to search for stranded victims; and restoration of critical infrastructure, such as damaged airfields, in order to sustain operations. The U.S. airbase Misawa, located in Aomori prefecture in northeastern Japan, was shaken violently by the earthquake but escaped with only minor damage. The facility is being used as a forward operating base for both U.S. and SDF forces. In addition, the government of Japan granted permission for U.S. forces to use Yamagata airport, the first time such an allowance has been approved. SDF troops are also

<sup>7</sup> Information in this section is taken from Fred W. Baker III, "U.S. Forces Provide Relief Aid to Japan," *American Forces Press Service*, March 13, 2011; Chris Carroll et al., "Relief Efforts Limited Days After the Earthquake," *American Forces Press Service*, March 13, 2011; and Phil Stewart, "More U.S. Ships Head to Japan, Radiation Risk Eyed," *Reuters.com*, March 14, 2011.

using the facility.<sup>8</sup> Concerted efforts to re-open the Sendai airport suggest that it will be used a major hub for receiving international relief supplies.

## **Response to Damaged Nuclear Reactors**

It is not yet clear to what extent DOD will be involved in responding to the problems at the affected nuclear reactor. On a force protection level, U.S. forces both ashore in Japan as well as at sea and in the air are well-equipped to monitor radiation levels as well as to decontaminate personnel and equipment that might become contaminated by radiological materials. On March 15, sensitive instrumentation on the USS *George Washington* in Yokosuka detected low levels of radioactivity from the Fukushima plant.

As the crisis surrounding the stricken reactors at the Fukushima Dai-ichi facility intensified, it appeared that the United States was stepping up efforts to assist the government of Japan (GoJ). On March 16, news outlets reported that the Global Hawk drone would fly over the reactor site in order to collect data and imagery for the GoJ.<sup>9</sup> In addition to using Global hawk unmanned aerial vehicles (UAVs) to monitor radiation, DOD is also using U-2 surveillance planes from Okinawa outfitted with “radiation suites” that can take readings at various altitudes and WC-135 Constant Phoenix aircraft from Offutt Air Force Base from Nebraska that are also capable of taking aerial readings.

On March 17, the U.S. Navy Seventh Fleet reported that five high-pressure water pumps from Sasebo and 100 Nuclear, Biological, Chemical (NBC) suits and masks were delivered to the Government of Japan to be employed at the troubled Fukushima plant. The Naval Dosimeter Center is sending 2,000 personal dosimeters (devices to monitor radiation exposure on individuals) to Japan. The U.S. military also contributed two fire trucks to Japanese authorities for use at the site.

Reports suggest that U.S. military forces “are seeing a disparity between Japanese radiation readings and the readings they’ve been getting from military monitors.”<sup>10</sup> While no specific readings were given, military officials suggested that some of the readings were in the “dire” range. The U.S. Pacific Command Commander, Admiral Robert Willard, stated that a nine-member team from U.S. Northern Command<sup>11</sup> has arrived in Japan to conduct a comprehensive assessment of the situation throughout the disaster area, including the area around the Fukushima Daiichi nuclear power plant.<sup>12</sup> This team will determine whether or not a larger force will be brought forward to assist U.S. and Japanese forces. The Commander of U.S. Pacific Command has requested a force of 450 radiological and consequence management experts to be available to deploy to Japan if required. Marine forces in Japan are currently providing radiological

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<sup>8</sup> “Japan, U.S. Engage in Record-scale Cooperation for Quake Relief,” *Sankei News*. March 17, 2011.

<sup>9</sup> “Northrop Drone Set to Overfly Japan Reactor, Seek Data on Damage,” *Bloomberg News*. March 16, 2011.

<sup>10</sup> Information in this section is from Alan Boyle, “U.S. Military Detects More Radiation,” *MSNBC*, March 18, 2011.

<sup>11</sup> U.S. Northern Command (USNORTHCOM) is a combatant command that provides command and control of Department of Defense (DOD) homeland defense efforts and coordinates defense support of civil authorities: <http://www.northcom.mil/About/index.html>.

<sup>12</sup> Information in this section is taken from a DOD transcript of a briefing given by U.S. Pacific Command Commander, Admiral Robert Willard on March 17, 2011.

surveillance around Atsugi, Yamagata, and Sendai.<sup>13</sup> Plans also call for two Marine radiological decontamination and monitoring elements to deploy to Atsugi.

## Naval Activities<sup>14</sup>

The USS *Ronald Reagan* Carrier Strike Group, which includes the cruiser USS *Chancellorsville*, the destroyer USS *Preble*, and the combat support ship USS *Bridge*, was diverted from military exercises around Korea and is now conducting operations off the east coast of Iwate Prefecture. USS *Cowpens* and USS *Shiloh* are expected to join the Strike Group shortly. The USS *Ronald Reagan*, with its 3,200 sailors and 2,480 aviators and air wing personnel and 85 aircraft, in addition to conducting flight operations, serves as a refueling platform for helicopters from the Japanese SDF, Japanese Coast Guard, and civilian authorities involved in rescue and recovery efforts. Three Japanese MSDF liaison officers are on board the USS *Reagan*, parallel to three U.S. Navy liaison officers aboard JS *Hyuga*, a Japanese vessel.

The carrier USS *George Washington* and the guided missile destroyer USS *Lassen* left Yokosuka on March 21, 2011, so that the ships could be prepared to “sustain a state of readiness in the long term defense of Japan.”<sup>15</sup> The ships are currently held offshore near Shikoku Island, well south of Tokyo and the areas affected by the earthquake, and scheduled to remain in Japan’s local waters.

Guided missile destroyers USS *Fitzgerald*, USS *John S. McCain*, USS *McCampbell*, and the USS *Curtis Wilbur* are also operating in close proximity to the USS *Ronald Reagan* Group and the destroyer USS *Mustin* is at sea south of the disaster site. The group has flown hundreds of sorties to deliver humanitarian supplies to the affected areas.

The USS *Tortuga*, an amphibious dock landing ship that had been docked at the U.S. naval base in Sasebo, picked up over 90 SDF vehicles and nearly 300 SDF forces from Hokkaido, Japan’s northernmost island, and delivered them to northern Honshu. The *Tortuga* will now serve as an afloat forward service base for helicopter operations. Some analysts cite the use of this amphibious ship as an exceptional example of flexibility in internationally coordinated efforts, given that it has been responsible primarily for transporting Japanese troops and equipment and can now provide a mobile operating base for the helicopter missions that are crucial for relief efforts.<sup>16</sup>

The USS *Essex*, an amphibious assault ship with the 31<sup>st</sup> Marine Expeditionary Unit aboard, and the USS *Harpers Ferry* and USS *Germantown* amphibious dock landing ships are off the coast near Hachinohe on Japan’s northeastern coast. Originally the ships were stationed in the Sea of Japan due to concerns about radiation levels closer to the Fukushima reactor site on the east coast. One primary mission is the re-opening of the severely damaged Sendai airport in order for it to serve as an operating base for disaster response in the surrounding area.

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<sup>13</sup> United States Pacific Command Operations Update on the Relief Effort in Japan, updated as of 4:05 a.m. HST March 21, 2011, [http://www.pacom.mil/web/Site\\_Pages/Home\\_Page/AssistedDeparture-2011/21-Relief-effort-update.shtml](http://www.pacom.mil/web/Site_Pages/Home_Page/AssistedDeparture-2011/21-Relief-effort-update.shtml).

<sup>14</sup> Information reported on U.S. Navy Seventh Fleet Facebook page, March 16-18, 2011.

<sup>15</sup> United States Pacific Command Operations Update on the Relief Effort in Japan, updated as of 4:05 a.m. HST March 21, 2011, [http://www.pacom.mil/web/Site\\_Pages/Home\\_Page/AssistedDeparture-2011/21-Relief-effort-update.shtml](http://www.pacom.mil/web/Site_Pages/Home_Page/AssistedDeparture-2011/21-Relief-effort-update.shtml).

<sup>16</sup> “Operation Tomodachi Update,” from *Information Dissemination: The Intersection of Maritime Strategy and Strategic Communications* blog post, <http://www.informationdissemination.net/2011/03/operation-tomodachi-update.html>, March 16, 2011.

The USS *Blue Ridge*, the Seventh Fleet's command ship, loaded personnel and additional supplies in the vicinity of Okinawa, and conducted further replenishment on March 21 near Nagasaki in southern Japan.

## **Marine Corps Ground Activities**

The III Marine Expeditionary Force (MEF) is opening a command element and two forward refueling points at the Yamagata airport, located about 35 miles from Sendai. The III MEF has linked up with the Northeast Army of the SDF. The 31<sup>st</sup> Marine Expeditionary Unit (MEU) from the USS *Essex* established a Forward Control Element in Matsushima. As of March 21, the 31<sup>st</sup> MEU was in the vicinity of Hachinohe and is scheduled to operate in the vicinity of Ofunato and Kamaishi ports to conduct beach surveys in preparation for humanitarian aid operations.<sup>17</sup>

Four U.S. Marine Corp Humanitarian Assistance Support (HAS) teams from the III Marine Expeditionary Force have arrived in the affected area. Landing in a heavily damaged Air SDF airfield, the Marines worked with ASDF personnel to unload relief supplies headed for a survivors' refuge center near Kesenuma, a coastal city north of Sendai particularly hard hit by the tsunami. The HAS teams distribute water and other supplies, provide basic medical care for those in immediate need, survey damaged infrastructure in need of repair, and monitor the spread of potential disease among the displaced population.

As previously noted, the Marines are also operating radiological surveillance in the vicinity of Astugi, Yamagata, and Sendai, and plans are underway to establish two decontamination and monitoring elements in Astugi.

## **Air Activities<sup>18</sup>**

In the early hours immediately following the earthquake, Yokota Air Base was used to recover airline traffic and as an alternate airfield for planes that could not land at Tokyo's Narita Airport. Initial air operations from Naval Air Facility Atsugi and the USS *Ronald Reagan* were focused on identifying survivors in need of assistance as well as delivering water, blankets, and food. Additional helicopters conducted surveys of the at-sea debris fields looking for survivors and also conducted search and rescue missions along the coastline. Two U.S. Navy P-3 Orion aircraft also participated in survey operations.

In the days following, air activities have focused on delivery of supplies and repositioning of aircraft to accommodate the relief effort. U.S. Air Force and Marine helicopters and transport aircraft have been moved from Okinawa to U.S. military bases on Honshu to assist with operations. Carrier Airwing Five relocated scores of tactical fixed-wing aircraft from Atsugi to Okinawa and Guam to provide for incoming aircraft to be used in relief operations and 14 rotary aircraft were delivered to Misawa.

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<sup>17</sup> United States Pacific Command Operations Update on the Relief Effort in Japan, updated as of 4:05 am HST March 21, 2011, [http://www.pacom.mil/web/Site\\_Pages/Home\\_Page/AssistedDeparture-2011/21-Relief-effort-update.shtml](http://www.pacom.mil/web/Site_Pages/Home_Page/AssistedDeparture-2011/21-Relief-effort-update.shtml).

<sup>18</sup> Information in this section is taken from Fred W. Baker III, "U.S. Forces Provide Relief Aid to Japan," *American Forces Press Service*, March 13, 2011; Chris Carroll et al., "Relief Efforts Limited Days After the Earthquake," *American Forces Press Service*, March 13, 2011; and Phil Stewart, "More U.S. Ships Head to Japan, Radiation Risk Eyed," *Reuters.com*, March 14, 2011.

A team from Kadena Air Force Base assisted in clearing runways and opening towers at Matsushima Air Base in northeast Japan, allowing the base to be used as another major hub of relief supplies to be delivered by helicopter.

An RQ-4 Global Hawk, an unmanned, long-endurance aircraft that performs surveys of large geographic areas, was deployed from Anderson Air Force Base in Guam to assist with disaster relief. Using radar and optical surveillance, the aircraft will be able to assess damage to infrastructure throughout the affected area.<sup>19</sup>

## **Ground Activities<sup>20</sup>**

The U.S. Army in Japan reportedly provided a 10-person team of translators, communications experts, and combat medics upon request of the Japanese Self-Defense Forces to help with disaster assessment efforts in the Sendai area. It was also reported that throughout Japan, similar efforts were undertaken at the request of local Japanese authorities by DOD personnel to aid and assist Japanese communities affected by the earthquake and tsunami. In addition, the U.S. Army Corps of Engineers Japan District provided an administrative system to help the U.S. Army Japan disaster assessment team with debris-removal efforts and the Corps is also working on a plan to clear debris from airfields that are critical to logistic and humanitarian efforts.<sup>21</sup>

On March 21, the Army launched the 59-member Logistics Task Force 35 by ground convoy from the Sagamihara General Depot to Sendai Airport. The task force's mission is to establish and maintain a distribution and supply point at the airport to increase the flow of humanitarian aid and disaster relief.<sup>22</sup>

## **Background: U.S. Military Presence in Japan<sup>23</sup>**

Current U.S. military presence in Japan consists of approximately 38,000 military personnel, 43,000 dependents, 5,000 DOD civilian employees, and 25,000 Japanese workers. U.S. forces are stationed in Japan pursuant to the U.S.-Japan Treaty of Mutual Cooperation and Security of 1960.

U.S. military strength in Japan is about 38,000 ashore and 11,000 afloat, and U.S. forces are dispersed among 85 facilities located on Honshu, Kyushu, and Okinawa.<sup>24</sup> Total acreage of U.S. bases is approximately 77,000 acres. United States Forces Japan (USFJ) bases and facilities range in size from a several thousand acre training area to a single antenna site.

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<sup>19</sup> "Air Force Officials Use Global Hawk to Support Japan Relief Efforts," *Air Force News Today*, March 16, 2011.

<sup>20</sup> Chris Carroll et al., "Relief Efforts Limited Days After the Earthquake," *American Forces Press Service*, March 13, 2011 and Devon James, "Misawa Sailors Assist Clean Up at Local Fishing Port," United States Pacific Command, March 14, 2011.

<sup>21</sup> Cheryl Pellerin, "Ships, Aircraft Support Japan Relief Effort," *American Forces Press Service*, March 16, 2011.

<sup>22</sup> United States Pacific Command Operations Update on the Relief Effort in Japan, updated as of 4:05 a.m. HST March 21, 2011, [http://www.pacom.mil/web/Site\\_Pages/Home\\_Page/AssistedDeparture-2011/21-Relief-effort-update.shtml](http://www.pacom.mil/web/Site_Pages/Home_Page/AssistedDeparture-2011/21-Relief-effort-update.shtml).

<sup>23</sup> Information in this section is taken directly from the U.S. Forces Japan website, <http://www.usfj.mil/>, accessed on March 16, 2011.

<sup>24</sup> See **Figure 2**.

On mainland Japan, there are seven different bases/posts. Yokota and Misawa, representing the Air Force; Camp Zama, representing the Army; Iwakuni, the Marine Corps; and Yokosuka, Atsugi, and Sasebo, the Navy.

**Figure 2. U.S. Bases in Japan**



## **U.S. Army, Japan (USARJ)<sup>25</sup>**

U.S. Army, Japan (USARJ) consists of about 2,000 soldiers and is charged, during peacetime, with operating port facilities and a series of logistics installations throughout Honshu and Okinawa. USARJ participates actively with the Japan Ground Self Defense Force in bilateral training exercises and the development of bilateral plans. It commands and supports U.S. Army assigned units, attached units, and augmentation forces and employs these forces in support of the Commander. USARJ maintains defense facilities, war reserves and operational project stocks. USARJ/9<sup>th</sup> Theater Support Command (TSC) is headquartered at Camp Zama.

## **U.S. Marine Corps**

The III Marine Expeditionary Force (MEF), which is under the operational command of Marine Forces Pacific, consists of approximately 16,000 Marines, which are garrisoned primarily on Okinawa and southern Honshu. III MEF is headquartered at Camp Courtney, Okinawa.

## **U.S. Marine Corps Bases, Japan<sup>26</sup>**

U.S. Marine Corps Bases, Japan, consists of approximately 9,000 military and civilian personnel and includes two air stations and nine camps/housing areas throughout Okinawa and mainland Japan. Its primary mission is to provide installation support and services, including force protection and quality of life, to forward-deployed Marine and Naval forces, other service members, civilians, retirees, family members, and others associated with U.S. Marine Corps Bases, Japan. HQs, U.S. Marine Corps Bases, Japan, is located at Camp Foster, Okinawa.

## **U.S. Navy<sup>27</sup>**

Commander, Naval Forces, Japan, consisting of about 6,000 personnel, is responsible for maintaining and operating the port facilities and providing base and logistic support for those surface, subsurface, aviation, and amphibious elements of the U.S. Seventh Fleet that operate from Japan as part of the Forward Deployed Naval Forces (FDNF). U.S. Commander Navy Forces, Japan, participates with the Japan Maritime Self Defense Force in exercises and planning. CNFJ is headquartered at Yokosuka.

## **U.S. Seventh Fleet**

U.S. Seventh Fleet, which is under the operation control of Commander, Pacific Fleet, has about 13,000 sailors, 18 ships, and 100 airplanes operating from Japan as part of the Forward Deployed Naval Forces.

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<sup>25</sup> Information in this section is taken directly from the U.S. Forces Japan website, <http://www.usfj.mil/>, accessed on March 16, 2011.

<sup>26</sup> Ibid.

<sup>27</sup> Ibid.

## **U.S. Air Force Japan (USAFJ)<sup>28</sup>**

The U.S. Air Forces, Japan/Fifth Air Force mission is to maintain the deterrent force posture of the United States and to conduct offensive and defensive air operations, should deterrence fail. Supporting that mission are approximately 13,000 military and civilian personnel located at units throughout Japan. In addition to the tactical air roles, USAFJ provides theater airlift and operational support with cargo airlift. USAFJ participates with the Japan Air Self Defense Force in bilateral training exercises and the development of bilateral plans. Fifth Air Force is headquartered at Yokota Air Base and is commanded by Commander, U.S. Forces Japan, in a dual-hatted capacity.

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<sup>28</sup> Ibid.